

### The potential for expanding inter-cluster cooperation between the ship-building industries of Estonia, Finland, and North-West Russia

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THE POTENTIAL  
FOR EXPANDING  
INTER-CLUSTER  
COOPERATION BETWEEN  
THE SHIP-BUILDING  
INDUSTRIES OF ESTONIA,  
FINLAND,  
AND NORTH-WEST RUSSIA

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*The shipbuilding industry clusters in the Eastern Baltic Sea region, i. e. Estonia, Finland and North-West Russia, may benefit significantly from increased mutual co-operation; however, the international networks between the clusters are still poorly developed. The aim of this article is to analyse the preconditions for cluster internationalization between these clusters, which are rather different but complementary in terms of skills. The research material for this desk study was collected from various sources, including journal articles, media, research reports, and other publications. The results of the study indicate that the increasing cooperation within the triangle of these clusters has a significant potential in terms of combining different areas of expertise and creating a multidimensional maritime industry hub in the region. However, differences in the cluster structure and development stages lead to certain difficulties in achieving these objectives. In conclusion, the authors identify the factors both facilitating and inhibiting networking between the three clusters. This study provides a platform for further research focusing on the factors identified and gives ideas for public discussion on increased inter-cluster cooperation.*

**Key words:** Estonia, Finland, North-West Russia, maritime industry, shipbuilding, cluster, internationalisation, international cooperation

### Introduction

Maritime clusters in the Eastern Baltic Sea region, i.e. in Estonia, Finland and North-West Russia, are facing rather similar challenges in the near future, although currently being quite different from each other. In Estonia, the maritime industry mainly refers to repair yards, whereas in Finland the design and building of new ships, such as cruise vessels and ice breakers, forms the core of the cluster. The Russian maritime cluster, in turn, has largely deteriorated

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since the Soviet Era, but has recently received notable investments and political support in order to meet the future fleet needs, particularly regarding the North-East Passage and the Arctic oil and gas drilling projects. However, the Russian shipyards still largely focus on building military vessels, which hinders the cost-efficiency of building civil vessels. Despite the differing competences regarding shipbuilding, the Baltic Sea forms a concrete and inevitable connection between these clusters which, at their current state, are rather small players against their booming Asian competitors, for instance. Moreover, the tightening environmental regulations, such as the sulphur directive taking effect in 2015, are expected to have significant impacts on shipping in the region, while at the same time forcing the shipbuilders to invent the relevant solutions which, in the long term, might turn out to be a crucial competitive advantage. Consequently, how could these clusters increase cooperation to tackle the mutual challenges together? How could these clusters internationalise?

A cluster is a specific type of network — a geographic agglomeration of companies that are vertically and horizontally linked by business transactions, cooperation and competition. The cluster companies share the local support infrastructure, labour markets and services, and are faced with common market opportunities and threats [5; 9; 14]. Within a local cluster there is a thick web of information, knowledge and inspiration, which contributes to the competitiveness of the whole network. However, the more the cluster companies engage in building translocal knowledge pipelines, the more information and news about markets and technologies are pumped into the internal networks [4]. To avoid lock-in, supra-regional linkages are of great importance to a cluster's development.

Scientific literature on clusters is vast, but the number of earlier studies on inter-cluster cooperation and cluster internationalisation remains rather low, although in today's globalised world such connections are of increasing importance in developing cluster competitiveness. Filippov and Yurkovsky [8] studied the internationalisation potential of North-West Russian and Finnish energy clusters, concluding that given all the complementary resources the clusters have, there is considerable potential for broadening trans-border cooperation between the Finnish and Russian energy clusters. They state that internationalisation of clusters, i. e. merging of clusters with similar specialisation existing in two or more countries, could be viewed as one of the most mature forms of internationalisation, generating a great number of business opportunities for the parties involved.

Concerning the maritime clusters of Estonia, Finland and North-West Russia, the hypothesis is that there could be same kind of potential for cluster internationalisation between the three countries. Thus, *the objective of this article is to analyse the preconditions for cluster internationalisation between the Estonian, Finnish and North-West Russian maritime clusters*. On the contrary to the study of Filippov and Yurkovsky [8], this article focuses on three clusters which do not share the same specialisation but complementary competences.

The research was conducted as a desk study, and based on the work of Filippov and Yurkovsky [8], the authors created a framework for analysing the preconditions for increased cooperation through the characteristics of

the clusters. The framework comprises the characteristics most relevant for cluster internationalisation: the structure and activity base, growth potential, innovative capacity, competitive advantages and position, governance and ownership structure, and government policy towards clustering. Based on the analysis, the study concludes with a summary of the characteristics conducive and detrimental to increased inter-cluster cooperation between Estonia, Finland and North-West Russia.

### **Characteristics of the Estonian maritime industry cluster**

The companies of the Estonian maritime industry cluster are mostly located in the coastal areas of Estonia, and particularly around Tallinn. Shipbuilding has long traditions in Estonia and today, ship repair and maintenance constitute the main fields of activities in the Estonian cluster. Small vessels and boats are also being built in Estonia — for instance, there is a vivid sub-cluster in Saaremaa building yachts, small ships and wooden boats. BLRT Grupp AS dominates the shipbuilding cluster with its turnover being almost 80% of the total turnover of the cluster [15]. The activities of BLRT Grupp include e.g. shipbuilding, ship repair, and production of metal constructions and machines [18]. The Estonian shipbuilding cluster comprises altogether some 50 companies [15] but excluding BLRT Grupp, the other companies are mainly SMEs, producing niche products [18]. Due to the small number of companies and the limited scope of their activities, the Estonian shipbuilding cluster can be characterised both narrow and shallow. The cluster can also be considered as fragmented, as the limited number of elements hinders the possibilities to gain substantial advantages from clusterisation.

As the companies of the cluster are mainly SMEs, most of their key activities are performed inside the geographical boundaries of the cluster, including R&D, logistics and management. BLRT Grupp operates in Finland, Lithuania and Norway as well, but as it has its headquarters in Tallinn, a large part of key activities is still performed inside the cluster. The cluster has potential for growth but for instance the lack of investments and qualified workforce pose a challenge for its development [7]. The well-developed IT and communication sectors and Estonia's business-friendly environment create a fruitful ground for the maritime companies' development but they need to increase their product development and innovation activities in order to be more competitive in the future. The Estonian maritime SMEs also lack resources and skills for internationalisation [19] which restricts their growth possibilities.

A good quality-cost ratio is among the key competences of the Estonian shipbuilding companies. Maritime SMEs often use local resources and have managed to keep their labour and production costs competitive. Cluster companies have been able to specialise successfully and achieve a relatively solid market share in their own segments but the fluctuating market for niche products poses a challenge for the companies [18]. Estonian maritime cluster companies mainly focus on the domestic and regional markets. However, for instance Baltic Workboats AS is operating on the markets of the Baltic Sea region countries and BLRT Grupp has achieved a position as the largest ship repair company in the Baltic countries.

Issues related to the maritime industry cluster in Estonia are mainly governed by the Ministry of Economic Affairs and Communications. In general, the Ministry plays an important role in creating the overall conditions for the growth of the competitiveness of the maritime industry [15]. The public sector also has an important role for instance in developing the regulatory framework, financing maritime-related education, and maintaining and improving the infrastructure. Regarding public support for entrepreneurship, Enterprise Estonia provides for instance financial assistance and training for companies. The Estonian Government has also adopted a development plan for Estonian Maritime Policy 2011—2020 which aims at, for instance, strengthening maritime education, entrepreneurship and R&D. However, despite of the various actors contributing in the cluster's development, the Estonian shipbuilding cluster is rather small and limited in terms of activities and could gain significantly from strengthening its international networks.

### **Characteristics of the Finnish maritime industry cluster**

The Finnish shipbuilding competence is today at a high level due to the long and extensive experience, fostered by the war reparations payments to the Soviet Union after the Second World War. The war reparations comprised goods that bear little correspondence to the pre-war Finnish industrial production, e.g. shipbuilding and metal industry products that had not been manufactured in Finland before, and thus compelled Finnish industry to go through a rapid development process and achieve performance levels that have later benefitted the entire national economy [17]. Today, the maritime industry cluster is relatively broad as it includes a wide range of horizontally related industries and sub-industries, producing a wide variety of goods and services. On the other hand, the cluster can be characterised as narrow in the sense that particularly smaller companies are rather specialised in their own niches. In addition, the companies are mostly located in the upper stages of the value chain and are only to a lesser extent involved for instance in the production of raw materials, semi-finished products and ship blocks which are often ordered from Poland and Russia, among others [2]. Regarding the geographical scope of the cluster, the companies are mostly located in, but not limited to, the coastal area of Finland, having significant economic and employment effects in these regions, as well as at the national level.

The activities of the value added system are performed partly within and partly outside the geographic boundaries of the cluster. Regarding large global companies, such as ABB, Rolls Royce and STX, the corporate strategies and top management come from the corporate headquarters abroad. Large companies also have a significant part of their R&D activities outside the cluster boundaries. On the other hand, the majority of the cluster companies are SMEs which have practically all their critical activities performed inside the cluster, including R&D, production management, sales management, and logistics.

The growth of the Finnish maritime industry is driven primarily by active innovations, development of new technologies and specialisation. The innovation potential of the Finnish maritime companies is relatively high, supported by

the well-developed national innovation system. Although the cluster has potential to respond to the demand of products and services related to for instance advanced technologies, increasing R&D and innovation activities could nevertheless contribute to the competitiveness of the cluster. Moreover, the fluctuating market in the shipbuilding sector poses a challenge both for the cluster companies and the cluster as a whole. The maritime industry is cyclic by nature and during lay-offs experts often shift to other industries and markets [2]. Thus it can sometimes be challenging for the industry to find enough experts inside the cluster. Indeed, foreign workforce is used as a buffer particularly at the operative level when for instance the Finnish shipyards receive large orders [10].

The key competitive advantages of the Finnish maritime industry cluster are mainly related to its high innovation potential. The main strengths of the cluster include specialization and know-how in e.g. design, engineering, Arctic and offshore solutions, and other advanced technologies. The companies also have a reputation as being reliable, keeping up with schedules, and producing high-quality products [2]. The solid expertise in several niches has given a positive label for the whole cluster as a locus of specialised know-how [10]. Indeed, many of the cluster companies are among the market leaders in their own segments, such as ABB with propulsion solutions, Technip with Spar platforms, KONE with lifting solutions, and Napa with ship design software [13]. However, the cost effectiveness and low price competitiveness pose significant challenges for the cluster's development and the Finnish maritime companies cannot engage in price competition with, for instance, the large shipbuilding clusters of China and South Korea. Nevertheless, it can be said that the specialization in products with high added value has generally speaking been successful and the demand for the Finnish expertise and the reliability of delivery exists [10].

In Finland, the maritime industry companies have mainly emerged from a handful of shipyards, such as Laivateollisuus, Rauma-Repola, Valmet, Hollming, and Wärtsilä, as a result of outsourcing of various business activities. Due to these common roots, the cooperation between companies has been rather natural and easy, and the cluster networks are well-developed and functioning. The cluster is formed by both large companies and SMEs, the latter comprising the majority, and many of them are not competing directly with each other which increases the potential for cooperation. In general, the subcontractors of the shipbuilding industry are rather well networked, and shipyards are also actively participating in common projects with partial and turnkey suppliers. Cooperation and networking is also seen to produce significant benefits for the cluster companies, for instance allowing the offering of comprehensive package deals to customers and thus better meeting the customer needs, and increasing common R&D activities. However, cooperation could still be increased and networks reinforced in order to gain the most out of clusterisation. Furthermore, whereas a part of the Finnish maritime industry companies are internationalised and export-oriented, a large share of the partial and turnkey suppliers is still mainly operating at the domestic market and supplying the local shipyards, thus being rather dependent on the respective shipyard's orders. Indeed, the networks of the cluster are rather shipyard-oriented which has, to some degree, hindered the companies from internationalising and the networks from diversifying [1].

The government plays a significant role in developing the maritime industry cluster in Finland. Generally speaking, the state's role in maintaining and developing infrastructure and shaping the political and economic environment in which the cluster operates is important. The government has also taken more targeted actions for supporting the cluster's development. For the years 2010—2012, the Ministry of Employment and the Economy classified maritime industry as an abrupt structural change sector in Finland, including a jointly drawn plan to solve the crisis and earmarked support for investment and development projects in the sector [11]. In 2013, the Ministry set a working group which evaluates the effects of the structural change and gives suggestions for renewing the maritime industry and boosting its competitiveness [12].

In addition, various interest groups and associations play an important role in the cluster. For instance, the Finnish Marine Industries offers a discussion forum and a platform for cooperation with companies operating in the same field, protects the member companies' interests and practises political lobbying. Finland also has relatively strong trade unions which shape the cluster's environment. In addition, funding organisations such as Finnvera and the Finnish Funding Agency for Technology and Innovation (Tekes) offer financing for various R&D projects, and Finpro offers internationalisation support, shaping the cluster's innovation and internationalisation development. Companies are also rather actively engaging in cooperation with universities and research institutes e.g. within various R&D projects and educational cooperation [1]. Thus, it can be said that the intra-cluster networks are well-functioning and diversified but increasing internationalisation, particularly of SMEs, could contribute to the competitiveness of the cluster and create new business opportunities for the companies.

### **Characteristics of the North-West Russian maritime industry cluster**

The Russian shipbuilding industry is dominated by military production, and the shipbuilding activities are spread between the north-western, southern and far-eastern parts of Russia. The Russian North-West benefits from a long tradition of shipbuilding, and the region today accounts for 72 % of Russia's total shipbuilding production volume and over 80 % of the related R&D. Approximately 39 % of all the 170 Russian shipbuilding enterprises are located in the Russian North-West [6].

The structure of the Russian maritime industry differs quite significantly particularly from the Finnish cluster — the state-owned United Shipbuilding Corporation (USC) accounts for about 80 % of the shipbuilding orders in the country. This St. Petersburg-based corporation unites the government's shipbuilding, repair and maintenance subsidiaries in the Western and Northern parts of Russia and in the Far East. The smaller companies involved in the industry, in turn, are rather scattered, not forming such an organised cluster as in Finland, for instance. The breadth of the cluster is somewhat narrow, although having strong links to military and energy industries due to their needs for various kinds of vessels. The cluster's depth, in turn, is rather low — the industry produces complete military vessels, but as regards civil vessels, for instance, the competences of the cluster do not currently exceed the hull construction, particularly in international terms.

The Russian shipbuilding industry was very vivid during the Soviet Era, largely guided by military interests. After the collapse of the Soviet Union, the industry has deteriorated. Because of the recent interest in the Arctic hydrocarbon fields and sea routes, the sector has again received a lot of attention and funding, and the cluster can be considered to be experiencing a rebirth. In fact, the Russian Government has stated that the shipbuilding industry today belongs to one of the strategic sectors of the economy, and according to a specific development programme, aims at quintupling its shipbuilding output by 2030 with the total state funding of RUB 1,3 trillion [3; 20]. The ambitious development programme divides the Russian shipbuilding cluster into three clusters: the robust North-West Russia requiring modernisation, the Southern Russia concentrating on shipbuilding in SEZs, and the Far East with a new modern shipyard complex [3]. Particularly the Far Eastern complex seems to be the future priority for the state because of the active oil and gas production operations requiring also new maritime capacity in the area [16].

The growth potential of the Russian shipbuilding really is notable since the existing fleet is in need of rapid and broad modernisation, and currently only 6 % of the orders from private Russian shipowners are placed to Russian shipyards [20]. Moreover, to diversify the legacy of military shipbuilding, Russia wants to increasingly engage in producing civil vessels. The current shipbuilding capacity is focused on building hulls, and advanced technologies and equipment must be imported. Despite ambitious goals, it is likely to take time before the cluster is truly modernised. This is due to the lack of technological capabilities and qualified work force, particularly in engineering, design and project management.

Regarding the innovative capacity, the Russian shipbuilding industry can be said to be at somewhat low level, although continuously developing. Due to the available funding and ambition to gain expertise — for instance related to Arctic shipping — Russian companies as well as research organisations are engaging in R&D activities, also in cooperation with international organisations. However, when comparing Russia's competitive position with other shipbuilding nations, it has fallen behind in terms of technologies and knowhow. The cluster today benefits from rather low labour and steel material cost, for instance, but already the fact that Russian private companies prefer foreign shipbuilders is a clear indication of the domestic shipbuilders' competitiveness. Nevertheless, the shipyards in North-West Russia increasingly cooperate with their European counterparts by dividing different phases of ship production within the yards. A case in point is the Arctech Helsinki Shipyard, which currently operates in the shared ownership of USC and STX Finland. The ice breakers built in the yard have been first designed in Finland, then the hull production has taken place in the shipyards of Yantar or Vyborg, and afterwards the ship has been finalised in Helsinki. International cooperation takes place also in the form of personnel exchange and training, for example.

Like in all strategic sectors in Russia, the state has a strong role in the development of the shipbuilding industry — in this case as the main customer for vessels, the owner of the key shipyards, and as the funding provider, the gigantic development project providing the most recent example.



The state involvement, however, has not contributed much to the sector's advancement, largely due to the lack of competition for international civil vessel orders which would have forced the industry to develop its cost efficiency, technologies and knowhow. Nevertheless, while receiving lots of state funding to support the development and while engaging more and more actively in international cooperation, the industry has every opportunity to increase clusterisation. Currently there are no organisations specialised in coordinating the cluster's activities, or associations or interest groups which would promote the industry's interests.

The concern about the state of the Russian shipbuilding industry is nothing new. The Russian government has established several policies since 1990s to support the industry's development, which, however, have not proven to be very effective. For instance, the creation of the USC in 2007 was a part of the *Strategy of shipbuilding development until 2020 and for the further perspective*, but the holding company is still in process of consolidating and developing the cooperation within the subsidiaries. The state-private interaction has not either resulted in significant increases in competitiveness. Instead of supporting the formation of natural business networks and clustering, the idea behind many government policies seems to have been that the way to increase competitive cooperation is to collect the relevant actors inside the same holding. However, the slowly increasing international business cooperation provides a good starting point for engaging the cluster into global competition.

## Conclusions

Although having different specialisation areas, the Finnish and Estonian shipbuilding clusters have potential for cooperation, for instance in terms of R&D and educational cooperation, repair and maintenance operations, ship conversions, and particularly in EU-level lobbying. Regarding Finland and Russia, in turn, the clusters are very different in terms of structures, technological advancements and international networks. However, as the Finnish and Russian shipbuilding companies often operate at the different stages of the shipbuilding process, e.g. Finnish companies focusing on design and Russian companies on building hulls, they complement each other, which has been already seen in the case of Arctech Helsinki shipyard. Furthermore, the developing shipbuilding sector in Russia provides high market potential for Finnish as well as Estonian companies, such as ship designers and software and device providers, and in Russia there is an evident need for their products and services. Whereas many Finnish companies are hesitant to enter the Russian business environment, Estonian companies often benefit from for instance language skills and Russian ownership linkages, having high potential for joint internationalization activities as well.

These clusters could presumably benefit from increased bilateral cooperation, but as a group they could even form a hub of complementary markets and products. Concerning the potential for such inter-cluster cooperation between all the three clusters, the summary of the key cluster characteristics and their effects is presented in the following table.

**Preconditions for inter-cluster cooperation between the shipbuilding clusters of Estonia, Finland and North-West Russia**

|                             | ESTONIA   | FINLAND   | NORTH-WEST RUSSIA   |
|-----------------------------|---|---|---|
| STRUCTURE AND ACTIVITY BASE | Activities largely limited to ship repair and maintenance. Limited advantages from clusterisation due to the low number of elements of the cluster  | A wide range of industries and sub-industries, producing a variety of goods and services, but particularly smaller companies often rather specialised. Companies concentrated in the upper stages of value chain, limited involvement in production of e.g. raw materials and ship blocks | Shipbuilding industry is dominated by military production, civil vessel production is mostly limited to hull construction, and advantaged technologies and equipment are imported |
| GROWTH POTENTIAL            | Companies are mainly focused on the national and regional markets and have relatively solid market shares in their own segments but the lack of internationalisation limits their growth potential. Growth potential is also limited by the lack of investments and qualified workforce | Economic downturn has affected the industry, particularly shipyards, negatively, but the potential for SMEs remains good. Growth is driven mainly by active innovations, development of new technologies and specialisation   | Large growth expected due to significant state investments to revive the stagnated sector   |
| INNOVATIVE CAPACITY         | Positive factors, such as business-friendly environment and well-developed IT and communication sectors contribute to innovative capacity but a clear need to increase R&D and innovation activities remains  | High innovative capacity, supported by the well-developed national innovation system. Established research cooperation within companies and research institutions, relatively high investments in R&D   | Remains rather low due to soviet legacy, lack of public-private R&D cooperation, and somewhat outdated facilities — but room for technology imports from other clusters           |

# COMPETITIVE ADVANTAGES AND POSITION

|  |   |   |
|--|---|---|
| Shipbuilding companies have a good quality-cost ratio and are competitive in their own niches. The cluster could gain significantly in terms of competitiveness by strengthening its international networks                                | Long experience in shipbuilding combined with modern technology solutions and efficient project management. Particularly labour costs, however, decrease competitiveness  | Key competences are related to military sector and rather low labour and steel costs are an advantage. In general, stagnated, state-led Russian maritime cluster is not internationally competitive   |
| One large international company dominates the cluster, other are private SMEs  | Comprises private SMEs and a few larger companies, some in foreign ownership. Well-developed networks due to the common roots of companies. Strong associations promote the interests of the cluster, e.g. contributing to the working conditions but rising the labour costs | Mainly state-owned corporations, largely focused on supporting the military and energy production. Smaller operators rather scattered and hard to reach for foreigners  |
| Government plays an important role in developing the cluster's operational environment and has adopted a development plan for the maritime sector. Public support for companies is provided through e.g. financial assistance and training | Government plays a significant role in developing the cluster's operational environment and has adopted special policies for supporting the cluster's development. SME internationalisation is supported through various projects and funding mechanisms                      | State strongly supports the development as well as consolidation in the maritime sector through various policies which, however, have not been very effective. State favors domestic companies in the shipbuilding projects but international cooperation is a necessity in terms of technology imports |

# GOVERNANCE AND OWNERSHIP STRUCTURE

# GOVERNMENT POLICY TOWARDS CLUSTERING

|  |  |
|--|--|
|  | Contributes to increased inter-cluster cooperation |
|  | Has mixed effects on inter-cluster cooperation     |
|  | Hinders inter-cluster cooperation                  |

Regarding the potential for increasing inter-cluster cooperation, some cluster characteristics can generally be seen as favourable and some unfavourable to mutual cooperation, depending on the country. Particularly the Finnish maritime cluster is active in R&D activities and high-technology production, whereas the Russian industry provides hull structures at low costs and the Estonian cluster various repair, maintenance and other life-cycle services. The different and complementary focus areas could result in the region providing full packages of various maritime industry products and services if the cluster companies and the related political decision-makers actively engaged in joint cooperation. In addition, due to the mutual operations environment, the clusters still share certain similarities. For instance, the Baltic Sea is every winter used as an 'Arctic laboratory' for ice-going vessels and the related technologies, and all the three clusters are experienced in dealing with challenges related to the frozen sea.

The stagnant state of the Russian shipbuilding industry can be seen both as a pro and a con for increased international cooperation — on the one hand, the market provides great opportunities for the Finnish and Estonian knowhow as the Russian shipbuilders are in need of expertise and modern technologies. On the other hand, the Russian business environment also needs modernisation to be attractive for international companies, such as the Estonian and Finnish SMEs, many of which have state-of-the-art knowhow but lack the resources and contacts to enter the market. As a result, there would be plenty of room for further international interaction in the Russian maritime cluster.

The strong role of the state in the sector's development is a double-edged sword — on the one hand it keeps the industry alive through vessel orders and support, but on the other hand restricts the companies from engaging in free international competition as the companies are not forced to look for orders from international customers, which significantly hinders the industry's development. In Finland the situation is the opposite — the industry is looking for help from the Finnish government as the currently Korean-owned shipyards are in trouble and have recently lost important vessel orders from international shipping companies to other European shipyards. However, even though state involvement in this business is quite normal in other European countries, let alone the Asian clusters, the Finnish government does not seem to be willing to participate in owning the shipyards. This way it forces the yards and their supplier networks to find new ways to make business and rapidly develop their competitiveness. The Finnish and Estonian governments promote the development of the local maritime industries through various support organisations and funding available for R&D collaboration, for instance.

The domestic networks within the Estonian and the Finnish maritime industry clusters are rather well connected through natural business networks and, particularly in Finland, through various associations and interest groups. Specific organisations also support the internationalisation of the companies. The Estonian maritime industry cluster resembles the Russian one in the

sense that there is one corporation clearly dominating the industry and its development. The Russian maritime industry, however, is strongly led by the state and the association-type of help for internationalisation and connections-building is quite non-existent. Consequently, in addition to different specialisations, the three clusters are rather different in terms of structure and governance.

It can be concluded that increasing cooperation within the triangle of these three clusters has a lot of potential in terms of combining the different areas of expertise and in creating a multidimensional maritime industry hub to the region. However, largely due to the differences in cluster structures and stages of development, this objective faces lots of difficulties and thus such cluster internationalisation is not likely to take place in this region naturally, at least in the very foreseeable future. Strong political agreement and support is needed so that the barriers for companies creating cross-border networks can be diminished within these three clusters — namely, eventually it is the companies that should, and can, form competitive clusters.

Due to the importance of such cooperation initiatives, both at the political and business level, further research is of great demand. For instance, comparing and supplementing the findings of this study with statistical or interview data (e.g. from company representatives or political decision-makers) would provide new insights to the potential inter-cluster cooperation as well as practical examples of existing cases. From theoretical perspective, further research on the drivers and processes of cluster internationalization are clearly needed, and cases worth benchmarking may be found from other sectors of the economy as well as from other regions of the world. As future competitiveness in any sector increasingly stems from networking, demand for the related research is only to grow. This study contributes to the existing knowledge with a general analysis on the cluster internationalisation potential in shipbuilding industry in the Eastern Baltic Sea region. By identifying the key issues hindering international cooperation, it guides further research to tackle these specific issues in more detail and provides elements for public discussion concerning increased inter-cluster cooperation.

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